



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ANSWERS TO CORRESPONDENTS.

B. W. S., Ky.—Fifteen volumes of the Proceedings of the American Association for the Advancement of Science have been published: they may be obtained of the Perpetual Secretary, Prof. J. Lovering, Cambridge, Mass.

G. W. B., Maine.—Among the most important works on Entozoa, or Intestinal Worms, are Cobbold's Entozoa, 4to, London, 1867. An Essay in Aitken's Practice of Medicine. An Essay on Human Cestoids, by F. R. Sturgis, 8vo, Cambridge, 1867. Human Cestoids, by Dr. D. F. Weinland, 8vo, 75 cents; a few copies of this last work may be had at this office. The best descriptive work is Diesing's *Systema Helminthum*, 2 vols. 8vo, published in Germany. See also Owen's article Entozoa, in Todd's Cyclopædia of Anatomy and Physiology.

J. F., New York.—Many instances of snakes charming birds and other animals have been recorded, but their power to do so is still doubted by many of the best authorities.

C. G. S., Penn.—Your so-called "horse hair" is a low parasitic hair-like worm, *Gordius*, which lives in the young or larval state in the bodies of grasshoppers, etc.; but when it becomes mature, crawls out of the body of its host, and lives in the mud at the bottoms of ponds and in moist earth.



EXCHANGES.

Andrew J. Bennett, Circleville, Ohio.—Would like to exchange Western land and fresh-water shells, for New England land and fresh-water shells.

E. P. Austin, Nautical Almanac Office, Washington, D. C.—Would like to exchange U. S. Coleoptera.



PROCEEDINGS OF SCIENTIFIC SOCIETIES.



AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—NATURAL HISTORY SECTION. *Burlington, Vt., August 21-26, 1867.*—"Traces of Ancient Glaciers in the White Mountains of New Hampshire, with a few Remarks upon the Geological Structure of some Portions of that Group," by George L. Vose, of Paris, Me. This was a detailed account of the observations of Mr. Vose in the Androscoggin, Peabody, and other valleys of the region, confirming the view

that these valleys have been occupied by local glaciers as well as by a general one. Mr. Vose gave an account of his observations on the geological arrangement of the rocks forming the principal range, upon which he founded hypotheses as to the early condition of that region.

“On the Origin of the so-called Lignilites or Epsomites,” by Professor O. C. Marsh, of Yale College. In limestone rocks, of all geological ages, there are frequently found columnar markings, and detached columns of the rock occurring along the seam between two beds of the same. Professor Marsh gave a notice of the different publications on the subject, showing what a puzzle they have long been to geologists. He exhibited a series of fine specimens, showing that they were due to pressure. Professor Marsh has been the first to show that the form of many perfect columns is due to the presence of a fossil shell or some foreign substance.

“On the Geographical Distribution of the Sediments and the Fossils in the Hamilton, Portage, and Chemung Groups of New York,” by Professor James Hall. The object of the paper was to show that identity of fossil species must not be expected in rocks of the same geological age over wide geographical areas.

“Upon some remarkable Fossil Fishes obtained by Rev. H. Herzer from the Devonian Rocks at Delaware, Ohio,” by Professor J. S. Newberry. Professor Newberry exhibited some splendid specimens of these fish remains, which Mr. Herzer obtained from concretions in the rock. The remains belonged to a genus of ganoid fishes, now made known for the first time. The fish must have been one of the monsters of the waters of those times, and very formidable. The head could not have been less than three feet long by two feet broad. On account of the great size, he had named it *Dinictlys*.

“The Fossil Insects of North America,” by S. H. Scudder. This paper was a review of the entire subject, noticing eighty species of fossil insects, known in the strata of this continent. The oldest preserved remains of insects now known are from the Devonian rocks of New Brunswick, and furnish evidence that insects were introduced about the time that land-plants first appeared.

“Depression of the Sea during the Glacial Period.” By Col. Charles Whittlesey. The existence of an ice epoch, during which the northern hemisphere above about latitude 40° was enveloped in ice *nevé* and snow, being now generally admitted, I propose to notice the effects which would necessarily follow in depressing the surface of the ocean.

It is universally admitted that there have been in North America

changes of level, either of the land or the sea, or both, during the ice period, particularly towards its close.

I wish to consider principally the changes of sea-level resulting from the accumulation of continental ice. Such accumulations can only occur by depositions of moisture from the clouds, derived from the ocean by evaporation. The water-line, or surface of the sea, is constant, only because there is an equilibrium between evaporation and the water returned through the rivers. If depositions, in the form of rain, dew, and snow, remain perpetually congealed, they are not returned to the common reservoir, and to that extent its surface must settle away. If the limits of perpetual snow and ice should now be enlarged, these effects should follow. A decrease of temperature of *one degree* annually would lower the snow line about three hundred feet per annum, and increase the area of snow *never* and ice, while evaporation would measurably cease; but over which deposition would continue.

The area supposed to have been covered by the ice mantle in North America, Northern Asia, and Europe, is equal to about *one-fifth* of the northern hemisphere. The ice-field must also have encroached upon the bays, fiords, sounds, lakes, and minor sea spaces adjacent, which with the enlargement of the South Pole Continent, I assume to be as much more, or equal to *one-fifth* of the surface of the globe. The evaporating surface of the ocean became restricted, as the congealed surface of the land and the sea enlarged, and the ocean mass became diminished.

In reference to dry land, the present ocean is determined to be as three to one; the earth presenting a surface three-fourths water and one-fourth land. Geographers estimate the water surface at 111,000,000 of square miles, the land at 37,000,000. If both the extent and the thickness of the ice covering could be determined, its mass would be easily fixed, and also the increase or diminution it would cause in the waters of the sea.

Dr. Hayes penetrated seventy miles from the sea at Port Foulke, Greenland, over the continental ice, which attained an elevation of 5,000 feet. The ice-grooving in New England reaches a height varying from 4,300 to 5,300 feet above the present level of the sea. Ice etchings extend from beneath the waters of Lake Superior to the tops of the highest mountains, 1,000 to 1,200 feet above its surface. The ice coating may have been 1,500 to 2,000 feet thick over much of the central part of British America. Its bulk is about one-tenth greater than water, and, dissolved on the same space, would fill a height of nine-tenths, or ninety feet in a hundred.

If it attained an average thickness of 2,000 feet in a solid state, it

would, in a liquid form, rise to 1,800 feet on the same area. If one-fifth of the earth was enveloped in congealed water, and four-fifths of its surface was free, the transfer of the liquid portion from the sea to the land, where it should remain, would depress the sea one-fifth of the vertical distance above assumed, for the water produced by the melting ice.

Dynamical results may have followed the accumulation of continental ice. The continent of Greenland is considered to be settling at a perceptible rate, — of necessity a sinking of one part of the earth's surface involves a rise in another, and generally an adjacent part, — accordingly the island of Newfoundland is reported to be rising. Professor Hall and other geologists claim that accumulations of detritus may reach a point where, by weight alone, depression must follow. If this theory is tenable, a load of ice would produce like results.

I present this idea for the consideration of geologists, when they study the phenomena of the fresh-water drift and terraces of the Great Lakes, which now stand on a level with the marine drift beds of Lake Champlain and the St. Lawrence. In the interior, over vast spaces extending to the Rocky Mountains, north and west of the lakes, there are no known elevations exceeding 2,000 feet above tide. A sinking seems to have taken place over this region, while the sea-coast as far as the east end of Lake Ontario was rising, the axis or line of rest being near the middle of this lake, and its bearing nearly across it.

CALIFORNIA ACADEMY OF NATURAL SCIENCES. *San Francisco, July 1, 1867.* — The eggs, caterpillar, female and cocoon, of the California silk-worm (*Saturnia Californica*, or *Euryalus* of Boisduval), were presented by Dr. Lanszweert, who remarked that the number of eggs of this silk-worm is from two hundred to two hundred and fifty. The female lays, on an average, from seventy to eighty per day. Three thousand eggs weigh an ounce. The caterpillar, direct from the egg, is more lively than that of the Chinese silk-worm, and hardly keeps in its place. The silk produced by this worm is stronger than that of the Chinese, and is indigenous to California. Living on the *Ceanothus*, it is well worth the attention of our silk-growers, as perhaps in feeding it on the mulberry a finer quality of silk would be obtained. The eggs were obtained from a female caught in the garden of the Philadelphia Brewery, Second street, in this city, on the 10th of June. The eggs were hatched on the 30th of the same month. The caterpillar requires generally from two to two and a half months before making its cocoon.

Mr. Stearns exhibited specimens of *Haliotis* from Monterey, which he had received from Dr. Canfield, of that place. The peculiarity of the specimens consisted in their being *hybrids*—a cross between the two species known to conchologists as *H. Cracherodii* and *H. rufescens*. In this connection Mr. S. made some general remarks upon the *Haliotide*. Dr. Cooper followed Mr. Stearns, and remarked upon the geographical distribution of this genus of mollusca.

A paper was read by Dr. W. P. Gibbons, of Alameda, in which he resumed the subject of the extinct forest of redwood on the Coast Range, near San Antonio. He directed attention to the fact that some of those stumps indicated a method of growth different from ordinary forest trees. Their immense size was due, in some cases, to the fact that three or four trees, growing in proximity, would ultimately impinge on each other, and if supplied with sufficient nourishment, they would grow together and form one immense trunk. This theory was verified by the statements of Dr. Kellogg and Mr. Bolander, who mentioned the fact that near Searsville several redwood trunks had grown together, and for forty feet formed a solid tree. There is no dependence in estimating the age of such trees in any other way than by carefully counting the number of concentric growths from a centre. The oldest of these redwoods is about 1,500 years of age. The *gigantea* of Calaveras is about the same age. These redwoods are evidently the second generation of the race; hence we may infer that 3,000 years, at least, have passed by since the present growth first commenced on the Coast Range. But long before this must vegetation have covered portions of these hills, as the *Sequoia* reposes in a bed of alluvium twenty or thirty feet in depth. He also referred to the bulbous expansion of these trees near the base. These are composed of large expanding roots, growing together, and forming a complete network. The height of this indicates the degree of denudation which the soil has undergone during the lifetime of the tree. This is about five feet in 1,500 years. Some of these trunks have from 10,000 to 14,000 buds, partially developed, around their base, each bud having the power, under favorable conditions, of being developed and containing a perfect tree. The mass of wood contained in a tree twenty-five feet in diameter is equal to 40,000 cubic feet, weighing over 2,500,000 pounds.

BOOKS RECEIVED.

A Manual of the Botany of the Northern United States. By Prof. Asa Gray. 8vo, 1867.

Epitome of Elocution. By B. W. Atwell. Providence, 1867. 12mo.

The American Bee Journal, Vol. I. Vol. III, No. 5, November, 1867.